

**ATTACHMENT 3**  
**ROG and NOx Emissions**  
**Agriculture Irrigation Pumps**  
**San Joaquin Valley**

**EMISSION INVENTORY SUMMARY CATEGORY**

Food and Agricultural Processing (Combustion)

**EMISSION INVENTORY CODES (CES CODES) AND DESCRIPTION**

**052-042-1200-0000 (83998)** Agricultural Irrigation Pumps

**METHOD FOR CALCULATING EMISSIONS**

EIC: 052-042-1200-0000

- Agricultural Irrigation Pumps

Emissions in this source category come from the operation of agricultural irrigation pumps. Emissions are estimated, using an areawide source methodology, by multiplying the amount of fuel burned or the number of operating hours by a device and/or fuel specific emission factor. In general, emission factors are estimated from USEPA AP-42, a collection of emission factors for generic equipment types, and are therefore not as reliable as factors derived from actual source test data. Please note we are currently using data supplied by the district for diesel irrigation pumps. However, we recognize that additional work needs to be done on this category.

**ROG and NOx EMISSIONS IN THE SAN JOAQUIN VALLEY**

Summer ROG Emissions (tons per day)

<b>Major Category</b>	<b>1999</b>	<b>2010</b>
Agricultural Irrigation Pumps	3.0	3.7

Summer NOx Emissions (tons per day)

<b>Major Category</b>	<b>1999</b>	<b>2010</b>
Agricultural Irrigation Pumps	43.5	54.3

**GROWTH AND CONTROL ASSUMPTIONS**

Growth is calculated by assigning growth surrogates to these categories and then growing their emissions based on the forecasted growth of those surrogates. Each category is grown based on the SIC code it falls under and then based on either the fuel use projections, the gross dollar output projections or the employment trends for that category.

## Preliminary Draft - Do Not Cite or Quote

### ROG & NOx Emissions Growth (1999-2010)

Major Category	Growth Increase (%)
Agricultural Irrigation Pumps	25%

Control is assigned based on federal, state and local rules. The tables below show the overall control.

#### ROG Control

Major Category	Control (%)
Agricultural Irrigation Pumps	0%

#### NOx Control

Major Category	Control (%)
Agricultural Irrigation Pumps	0%

### TEMPORAL ACTIVITY

Agricultural irrigation pumps operate at various times during any given operating day. But it is the monthly variation that proves most significant for this category and for their contribution to excessive ozone formation, a “summer” phenomenon. By “summer”, the ARB refers to the months May through October, when we see the ozone standards most often violated. The tables below show the percent activity in each month for this category.

EIC: 052-042-1200-0000: Agricultural Irrigation Pumps

#### ROG/NOx Emissions Activity (percent)

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
4.4	4.4	4.4	11.5	11.5	11.5	13.4	13.4	13.4	4.0	4.0	4.0
<b>Summer</b>		67.3									
<b>Winter</b>		32.7									

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